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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/712,767 | 11/12/2003 | Eugen Unger | 20195/0200498-US0 | 7403 |

7278 7590 01/25/2006

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| EXAMINER |
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NOVACEK, CHRISTY L

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| ART UNIT | PAPER NUMBER |
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2822

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|---------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/712,767 | Applicant(s) UNGER ET AL. | |
| | Examiner Christy L. Novacek | Art Unit 2822 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22 and 25-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 and 25-31 is/are allowed.
- 6) ☒ Claim(s) 32-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the amendment filed October 31, 2005.

Response to Amendment

The amendment to the specification is sufficient to overcome the objection to the specification stated in the previous office action. Therefore, this objection is withdrawn.

The limitations added to claim 22 are sufficient to overcome the Awano (US 20020163079) reference.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 32-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Awano (US 20020163079, previously cited).

Regarding claim 32, Awano discloses forming a first nanoelement, covering the first nanoelement in a predetermined region with a catalyst material for catalyzing growth of nanoelements, and growing a second nanoelement on the catalyst material (Fig. 5A-6; para. 0088-0097). Awano does not disclose covering the first nanoelement with catalyst material by bringing the nanoelement into contact with a suspension. However, claims 32-42 are product-by-process claims. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process

Art Unit: 2822

claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In the instant case, the product as defined by the structural limitations recited in claim 32, is the anticipated by Awano.

Regarding claim 33, Awano discloses that only a portion of the first nanoelement is covered with catalyst material for catalyzing the growth of nanoelements.

Regarding claim 34, Awano discloses that the first nanoelement may be grown in a pore introduced structure (para. 0097).

Regarding claim 35, Awano discloses that the first nanoelement may be grown in the pore on a metallization plane in the substrate (para. 0075-0076).

Regarding claim 36, Awano discloses that the second nanoelement is grown on top of the first nanoelement and additional nanoelements may be grown thereon.

Regarding claim 37, Awano discloses that the first and second nanoelements include nanotubes/nanorods.

Regarding claim 38, Awano discloses that the nanorod may include a metal (para. 0081).

Regarding claim 39, Awano discloses that the nanotube is a carbon nanotube.

Regarding claim 40, Awano discloses that the first and second nanoelements may be carbon nanotubes and the catalyst may include nickel, cobalt or iron (para. 0076).

Regarding claim 41, Awano discloses an integrated circuit coupled to the first and second nanoelement.

Regarding claim 42, Awano discloses that the nanoelements form a branched network (Fig. 6).

Allowable Subject Matter

Claims 22 and 25-31 are allowed.

The primary reasons for the allowance of claims 22 and 25-31 were stated in the previous office action.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christy L. Novacek whose telephone number is (571) 272-1839. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30 - 5:00.

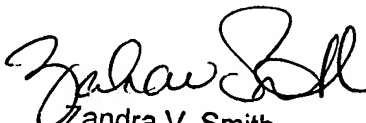
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2822

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLN

January 18, 2006


Zandra V. Smith
Supervisory Patent Examiner
13 Jan - 2006